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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,190	07/27/2000	Srihari Adireddy	US 000064	1208

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EXAMINER	
WILLIAMS, LAWRENCE B	
ART UNIT	**PAPER NUMBER**
2634	9

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/627,190	Applicant(s) ADIREDDY ET AL.	
	Examiner Lawrence B Williams	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 - 8 are rejected under 35 U.S.C. 102 (e) as being anticipated by Chen et al. (US Patent 6,560,321).

(1) With regard to claim 1, Chen et al. discloses in Fig. 2, a transmitter (210, 230) for transmitting a stream of known symbols and unknown symbols through a transmission channel to a first receiver that receives the transmitted stream of known symbols and unknown symbols distorted by intersymbol interference (ISI) and reduces therein an ISI signal, wherein the transmitter comprises: a known symbol distribution controller (214; col. 4, line 60-col. 5, line 28) capable of inserting a plurality of known symbol clusters into an outgoing stream of unknown symbols in an optimum distribution in order to improve the performance of the first receiver (abstract; col. 11 – col. 12, line 22). Chen discloses in his invention a modem system with capabilities of determining a different training sequence duration (known symbols) to be inserted within the data (unknown symbols) based on various characteristics of the channel for an optimum distribution in order to improve performance of each modem. The ISI mentioned by applicant would be inherent to one skilled in the art.

(2) With regard to claim 2, Chen et al. also discloses the transmitter as set forth in claim 1, wherein the known symbol distribution controller is capable of determining a channel order, L, associated with the receiver (col. 11, lines 28 – 39). Chen et al. determines a channel order relative to current channel conditions.

(3) With regard to claim 3, Chen et al. also discloses the transmitter as set forth in claim 2 wherein the known symbol distribution controller determines the optimum distribution according to a value of the channel order (col. 11, lines 28-39). Chen et al. determines an optimum sequence duration based on current conditions of each channel.

(4) With regard to claim 4, Chen et al. also discloses the transmitter as set forth in claim 3 wherein the known symbol distribution controller determines a minimum size of each of the plurality of known symbol clusters according to the value of the channel order (col. 11, line 31-line 33).

(5) With regard to claim 5, the transmitter as set forth in claim 1 wherein the transmitted stream of known symbols and unknown symbols is received by a plurality of receivers and wherein the known symbol distribution controller is capable of determining a plurality of channel orders, L, through L, wherein each channel order is associated with a corresponding one of said plurality of receivers (col. 11, lines 28-39). Chen discloses a modem system (abstract), which includes answer and receiver modems. As Chen discloses determining an optimum training sequence length based on channel conditions (channel order), it would be inherent that each receiver modem in the system would have an optimum sequence length (channel order) associated with it.

(6) With regard to claim 6, though Chen et al. is silent as to determining a maximum one of the plurality of channel orders, it would simply be inherent that Chen et al's system would have a maximum sequence length (order).

(7) With regard to claim 7, Chen et al. also discloses the transmitter as set forth in claim 6 wherein said known symbol distribution controller determines the optimum distribution according to a value of the maximum channel order (col. 11, lines 28-39).

(8) With regard to claim 8, Chen et al. also discloses the transmitter as set forth in claim 7 wherein said the known symbol distribution controller determines a minimum size of each of the plurality of known symbol clusters transmitted to all of the plurality of receivers according to the value of the maximum channel order (col. 12, lines 18 – 22).

3. Claims 9-20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Trans (US Patent 6,377,640 B2).

(1) With regard to claim 9, Trans, a network comprising: a plurality of receivers, each of said receivers capable of receiving from a transmission channel an incoming stream of known symbols and unknown symbols distorted by intersymbol interference (ISI) (abstract), wherein each of said receivers comprises a block decision feedback equalizer (Fig. 10C-2) capable of receiving the transmitted stream of known symbols and unknown symbols distorted by intersymbol interference (ISI) and reducing therein an ISI signal; and a transmitter (342; Fig. 3) for transmitting a stream of known symbols and unknown symbols through a transmission channel to a first receiver, wherein the transmitter comprises a known symbol distribution controller (327; Fig. 3) capable of inserting a plurality of known symbol clusters into an outgoing

stream of unknown symbols in an optimum distribution in order to improve the performance of a first receiver (col. 62, lines 49-59).

(2) With regard to claim 10, Trans also discloses the network as set forth in claim 9, wherein the known symbol distribution controller is capable of determining a channel order, L, associated with the receiver (col. 62, lines 49-59). Trans determines a channel order relative to identification and equalization.

(3) With regard to claim 11, Trans also discloses the network as set forth in claim 10 wherein the known symbol distribution controller determines the optimum distribution according to a value of the channel order (col. 62, lines 49-59). Trans determines an optimum sequence duration based on current conditions of each channel.

(4) With regard to claim 12, Trans also discloses the network as set forth in claim 11 wherein the known symbol distribution controller determines a minimum size of each of the plurality of known symbol clusters according to the value of the channel order (col. 61, lines 35-42).

(5) With regard to claim 13, the network as set forth in claim 9, wherein the transmitted stream of known symbols and unknown symbols is received by a plurality of receivers and wherein the known symbol distribution controller is capable of determining a plurality of channel orders, L, through L, wherein each channel order is associated with a corresponding one of said plurality of receivers (col. 61, lines 35-42; col. 62, lines 49-59). Trans discloses a network communications system (abstract), which includes receiving and transmitting nodes. As Trans discloses determining an optimum training sequence length based on channel conditions

(channel order), it would be inherent that each node in the system would have an optimum sequence length (channel order) associated with it.

(6) With regard to claim 14, though Trans is silent as to determining a maximum one of the plurality of channel orders, it would simply be inherent that Tran's system would have a maximum sequence length (order).

(7) With regard to claim 15, Trans also discloses the transmitter as set forth in claim 14 wherein said known symbol distribution controller determines the optimum distribution according to a value of the maximum channel order (col. 62, lines 49-59; col. 65, lines 4-21).

(8) With regard to claim 16, Chen et al. also discloses the transmitter as set forth in claim 15 wherein said the known symbol distribution controller determines a minimum size of each of the plurality of known symbol clusters transmitted to all of the plurality of receivers according to the value of the maximum channel order (col. 12, lines 18 – 22).

(9) With regard to claim 17, claim 17 inherits all limitations of claim 9 above.

(10) With regard to claim 18, claim 18 inherits all limitations of claims 13, 14 and 17 above.

(11) With regard to claim 19, claim 19 inherits all limitations of claims 15 and 18 above. above.

(12) With regard to claim 20, claim 20 inherits all limitations of claim 19 above.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 703-305-6969. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
April 19, 2004

STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
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